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# SCIENCE

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

## THE EVOLUTION OF A BOTANICAL PROBLEM

## THE HISTORY OF THE DISCOVERY OF SEXUALITY IN PLANTS<sup>1</sup>

FROM the beginning of man's thoughtful consideration of natural processes, the phenomenon of sexual reproduction, with the associated phenomena of heredity, have persistently engaged his keenest interest. The primary fact of the necessary concurrence of two individuals in the production of offspring was, in the case of animals, recognized from the beginning. The equivalent phenomenon was not established for plants until the end of the seventeenth century. At this time, however, little more was known of the essential features of the sexual process in animals than had been familiar to Assyrians, Egyptians and Greeks twenty centuries before.

Of the additions made since 1700 to our knowledge of sexual reproduction, of its varied types and of the associated phenomena, no mean share has been contributed by botanical investigators. Noteworthy among such contributions are the work of Koelreuter and Mendel in the production and systematic study of plant hybrids, and the early work of Pfeffer on the chemotactic response of spermatozoids. Of more recent work we may cite that of the plant cytologists on apogamy and apospory, on multi-nucleate sexual cells or gametes, and on the long-delayed nuclear fusion in the sexual reproduction

<sup>1</sup> Address of the vice-president and chairman of Section G, Botany, American Association for the Advancement of Science, December, 1913.